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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/073,491	02/11/2002	John Booth Bates	2001-0621	6019

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EXAMINER
LIANG, LEONARD S

ART UNIT	PAPER NUMBER
2853	

DATE MAILED: 04/07/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/073,491	BATES ET AL.	
	Examiner	Art Unit	
	Leonard S Liang	2853	

-- The MAILING DATE of this communication appears on the cover sheet with th correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____ .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-14 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-14 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on 11 February 2002 is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4 .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other:

DETAILED ACTION

Claim Objections

1. Claims 1-14 are objected to because of the following informalities: Many of the claims refer to first and second printing steps. However, there is no explicit mention of first and second printing steps in independent claims 1 and 10. It will be construed that the first printing step is "printing on the print medium with the printhead in an area corresponding to said predetermined amount" and the second printing step is "printing on the print medium with the printhead in an area corresponding to said minimum reliable move amount" since those were the orders presented of the printing steps. Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim 8 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 8 states "The method of printing of claim 1, wherein said first printing step is carried out using multiple pass printing, said multiple being an integer p…n=number of passes at bottom of page=p. It is not clear how p can represent both the number of passes of the first printing step and the number of passes at the bottom of the page, which as disclosed in claim 1, is associated with the second printing step (since it is the bottom of the page that is associated

with an end of printable area, and thus a minimum reliable move amount). Is p meant to represent the number of passes in the first printing step, the second printing step, or both? It is not clear. Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

3. Claims 1-7 and 9-14 are rejected under 35 U.S.C. 102(e) as being anticipated by Maeda (US Pat 6352326).

Maeda discloses:

- {claim 1} A method of printing on a print medium with a printhead in an ink jet printer; advancing the print medium in an advance direction a predetermined

amount; printing on the print medium with the printhead in an area corresponding to the predetermined amount; determining an end of printable area on the print medium in the advance direction; advancing the print medium in the advance direction a minimum reliable move amount, dependent upon the determining step, the minimum reliable move amount being less than the predetermined amount; printing on the print medium with the printhead in an area corresponding to the minimum reliable move amount (abstract)

- {claim 2} the first printing step is carried out using multiple pass printing, the multiple being an integer p (abstract; column 1, lines 32-47; column 17, line 33)
- {claims 3 and 4} calculating whether the following mathematical relationship is true: (Rt- (Rm * p)) - R1 <= 2 * Rp (figure 15; abstract; claim is naturally suggested in view of teachings when remaining feedable distance Y is less than the feed pitch X because the feeding multiple X' < X. As a result, the equation (Rt- (Rm * p)) - R1 <= 2 * Rp is naturally suggested. Thus, resetting the predetermined amount to a distance corresponding to ((Rt- (Rm * p)) - R1)/2 is also naturally suggested)

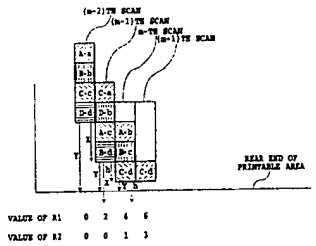

FIG.15

- {claim 5} repeating the first advancing step and the first printing step two remaining times (abstract; claim naturally suggested by "multi-pass printing)

- {claim 6} the multiple pass printing corresponds to four pass printing (abstract; column 2, lines 38-53; claim naturally suggested because number of passes depends on size of media scanned and "plurality of scans" is disclosed)
- {claim 7} the predetermined amount corresponds to an integer divisor of a height of the printhead (column 1, lines 35-47; scan # = H/x, so predetermined amount x = H/scan #; where scan # can be an integer)
- {claim 9} the second printing step is carried out using multiple pass printing, and including the steps of repeating the second advancing step and the second printing step until a nozzle of the printhead closest to the end of printable area is immediately adjacent to the end of printable area, and then repeating the second printing step without repeating the second advancing step until the multiple passes on the printable area are complete (abstract; column 1, lines 32-47)
- {claim 10} A method of printing on a print medium with a printhead in an inkjet printer comprising the steps of printing on the print medium using multiple pass printing; advancing the print medium in an advance direction a predetermined amount; printing on the print medium with the printhead in an area corresponding to the predetermined amount; determining an end of printable area on the print medium in the advance direction; printing on the print medium using adjusted multiple pass printing, dependent upon the determination of the end of printable area; advancing the print medium in the advance direction a minimum reliable move amount, the minimum reliable move amount being less than the

predetermined amount; printing on the print medium with the printhead in an area corresponding to the minimum reliable move amount (abstract)

- {claim 11} the multiple pass printing of the first step is carried out with a multiple represented by an integer p (abstract; column 1, lines 32-47; column 17, line 33)
- {claims 12 and 13} calculating whether the following mathematical relationship is true: (Rt- (Rm * p)) - R1 <= 2 * Rp (figure 15; abstract; claim is naturally suggested in view of teachings when remaining feedable distance Y is less than the feed pitch X because the feeding multiple X' < X. As a result, the equation (Rt- (Rm * p)) - R1 <= 2 * Rp is naturally suggested. Thus, resetting the predetermined amount to a distance corresponding to ((Rt- (Rm * p)) - R1)/2 is also naturally suggested)
- {claim 14} the second printing step using adjusted multiple pass printing includes the substeps of repeating the second advancing step and the second printing step until a nozzle of the printhead closest to the end of printable area is immediately adjacent to the end of printable area, and then repeating the second printing step without repeating the second advancing step until the multiple passes on the printable area are complete (abstract; column 1, lines 32-47)

Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Broder et al (US Pat 5646667) discloses combined central and lateral hold-down plates, and end-of-page advance-distance decrease, in liquid-ink printers.

Otsuki (US Pat 6250734) discloses a method and apparatus for printing with different sheet feeding amounts and accuracies.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leonard S Liang whose telephone number is (703) 305-4754. The examiner can normally be reached on 8:30-5 Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Barlow can be reached on (703) 308-3126. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7724 for regular communications and (703) 308-7724 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

lsl LSL

March 31, 2003

JUDY NGUYEN
PRIMARY EXAMINER